

Novel High Temperature Magnetic Bearings for Space Vehicle Systems, Phase I

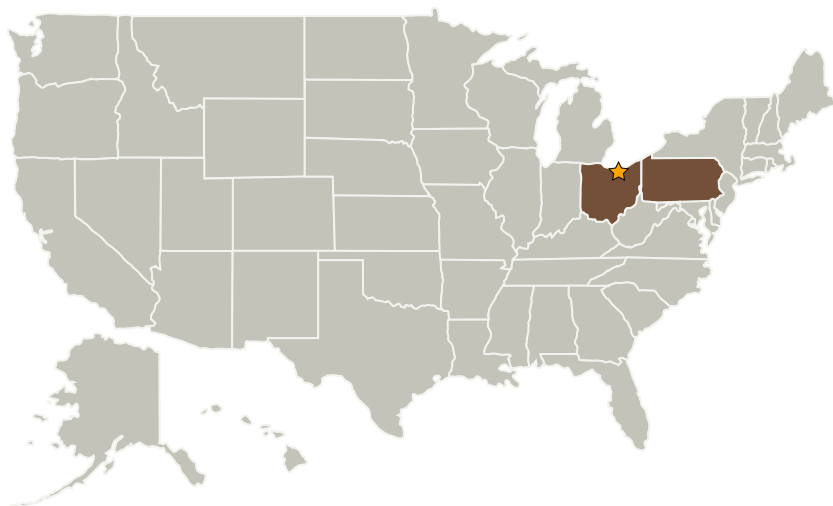
Completed Technology Project (2005 - 2005)



Project Introduction

Previous high temperature magnetic bearings employed only electromagnets. The work proposed in this SBIR program seeks to utilize High Temperature Permanent Magnets (HTPM) developed by EEC. The use of HTPMs will improve efficiency since the majority of the static load on any bearing can be reacted by the flux of the permanent magnets. The end product will be a high speed / high temperature / high load test platform for future development of high bearing, motor, generator and seal components. This capability will be of special benefit to the aerospace and process machinery industries. In addition the component demonstrations from this SBIR will provide designers with the confidence needed to integrate similar components in their high performance machinery.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★ Glenn Research Center(GRC)	Lead Organization	NASA Center	Cleveland, Ohio
Electron Energy Corporation	Supporting Organization	Industry	Landisville, Pennsylvania



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Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Center / Facility:

Glenn Research Center (GRC)

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

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Primary U.S. Work Locations

Ohio

Pennsylvania

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

Jinfang Liu

Technology Areas

Primary:

- TX14 Thermal Management Systems
 - └ TX14.1 Cryogenic Systems
 - └ TX14.1.3 Thermal Conditioning for Sensors, Instruments, and High Efficiency Electric Motors